

U.S. Pat. App. Ser. No. 10/633,734
Amendment Dated April 25, 2005
Response to Office Action Mailed on January 25, 2005

Listing of Claims:

1-3. (canceled)

4. (currently amended) ~~The applicator of claim 3, wherein~~ A fiber coating applicator, comprising:

a chamber,

a cup positioned over the chamber, and

an entrance die assembly mounted into a first opening between the cup and the chamber,

the first opening is being threaded to receive a first set screw, and wherein the entrance die assembly includes including a first die insert mounted into a first fitting, the first fitting held in position by a first set screw that is screwed into the first opening,

the first die insert having an entrance aperture therethrough connecting the cup to the chamber,

the chamber including an exit aperture opposite the entrance aperture, the cup, entrance aperture, chamber, and exit aperture defining a pathway for a fiber to be coated,

the chamber further including an input port for pumping a coating material into the chamber,

the entrance aperture being dimensioned such that as a fiber travels along the pathway and coating material is pumped into the chamber, coating material travels upward through the entrance aperture around the fiber into the cup, the upward flow of coating material being restricted by the fiber and entrance aperture such that there is a hydrostatic pressure in the chamber,

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the exit aperture being dimensioned to shape coating material around a fiber traveling along the pathway.

5. (canceled)

6. (currently amended) ~~The applicator of claim 5, wherein~~ A fiber coating applicator, comprising:

a chamber,

a cup positioned over the chamber, the cup connected to the chamber by an entrance aperture, and

a shaping die assembly mounted into a second opening in the chamber opposite the entrance aperture,

~~the second opening is being threaded to receive a second set screw, and wherein the shaping die assembly includes~~ including a second die insert mounted into a second fitting, the second fitting held in position by a second set screw that is screwed into the second opening,

the second die insert having an exit aperture therethrough opposite the entrance aperture, the cup, entrance aperture, chamber, and exit aperture defining a pathway for a fiber to be coated,

the chamber further including an input port for pumping a coating material into the chamber,

the entrance aperture being dimensioned such that as a fiber travels along the pathway and coating material is pumped into the chamber, coating material travels upward through the entrance aperture around the fiber into the cup, the upward flow of coating material being

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restricted by the fiber and entrance aperture such that there is a hydrostatic pressure in the chamber,

the exit aperture being dimensioned to shape coating material around a fiber traveling along the pathway.

7. (currently amended) ~~The applicator of claim 1, wherein~~ A fiber coating applicator, comprising:

a chamber, and

a cup positioned over the chamber, the cup connected to the chamber by an entrance aperture,

the chamber including an exit aperture opposite the entrance aperture, the cup, entrance aperture, chamber, and exit aperture defining a pathway for a fiber to be coated,

the chamber further including an input port for pumping a coating material into the chamber,

the entrance aperture being dimensioned such that as a fiber travels along the pathway and coating material is pumped into the chamber, coating material travels upward through the entrance aperture around the fiber into the cup, the upward flow of coating material being restricted by the fiber and entrance aperture such that there is a hydrostatic pressure in the chamber,

the exit aperture being dimensioned to shape coating material around a fiber traveling along the pathway,

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~~the chamber includes~~ including a flexible gooseneck, and wherein the applicator further
~~includes the applicator further including~~ at least one translation stage for adjusting the relative
positions of the entrance and exit apertures.

16. (currently amended) ~~The applicator of claim 15, wherein~~ A fiber coating
applicator, comprising:

a body in which there is formed a cup positioned over a chamber, the cup and chamber
connected to each other by a first opening,

the body further including a second opening at the base of the chamber opposite the
entrance aperture first opening,

the first opening is being threaded to receive a first set screw to hold the an entrance
die assembly in position, and wherein the second opening is and the second opening being
threaded to receive a second set screw to hold the a shaping die assembly in position,

the body further including an input port into the chamber for pumping a coating material
into the chamber, and a drain port leading out of the cup for draining coating material out of the
body,

the cup, first opening, chamber, and second opening defining a coating pathway in which
a fiber enters the body through the cup, passes through an entrance aperture in a first die mounted
into an entrance die assembly mounted into the first opening, passes through the chamber, and
exits the body through an exit aperture in a second die mounted into a shaping die assembly
mounted into the second opening.

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the entrance aperture being dimensioned such that as a fiber travels along the coating pathway and coating material is pumped into the chamber, coating material travels upward through the entrance aperture around the fiber into the cup, with excess coating material being drained out of the cup through the drain port,

the upward flow of coating material being sufficiently restricted by the fiber and the entrance aperture such that there is a hydrostatic pressure in the chamber.

17. (currently amended) ~~The applicator of claim 15, wherein the body includes-~~

A fiber coating applicator, comprising:

a body in which there is formed a cup positioned over a chamber, the cup and chamber connected to each other by a first opening,

the body further including a second opening at the base of the chamber opposite the entrance aperture first opening,

the body further including first and second input ports leading into the chamber, the first and second input ports having different dimensions, for pumping a coating material into the chamber, and a drain port leading out of the cup for draining coating material out of the body,

the cup, first opening, chamber, and second opening defining a coating pathway in which a fiber enters the body through the cup, passes through an entrance die mounted into the first opening, passes through the chamber, and exits the body through a shaping die mounted into the second opening,

the entrance die having an entrance aperture dimensioned such that as a fiber travels along the coating pathway and coating material is pumped into the chamber, coating material

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travels upward through the entrance die around the fiber into the cup, with excess coating material being drained out of the cup through the drain port,

the upward flow of coating material being sufficiently restricted by the fiber and entrance die such that there is a hydrostatic pressure in the chamber.

18-20. (canceled)

21. (new) The applicator of claim 4, wherein the cup further includes a drain port for draining excess coating material out of the cup.

22. (new) The applicator of claim 4,
wherein the entrance aperture has a diameter of 30 mils and the exit aperture has a diameter of 9.3 mils,
wherein the coating material has a viscosity of 40 centipoises,
and wherein the applicator is used to apply a coating having a thickness of 10-20 microns onto a fiber having a diameter of 200 microns.

23. (new) The applicator of claim 6, wherein the cup further includes a drain port for draining excess coating material out of the cup.

24. (new) The applicator of claim 6,
wherein the entrance aperture has a diameter of 30 mils and the exit aperture has a diameter of 9.3 mils,
wherein the coating material has a viscosity of 40 centipoises,
and wherein the applicator is used to apply a coating having a thickness of 10-20 microns onto a fiber having a diameter of 200 microns.